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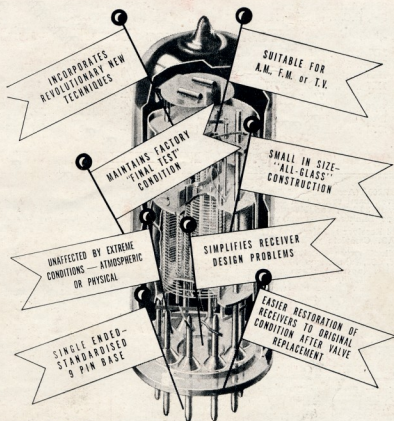
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INSTITUTE OF  
AUSTRALIA

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# AMATEUR RADIO

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## EDITORIAL



### Mr. J. M. Martin Retires

Our esteemed friend, Jack Martin, retires from office as Assistant Director General (Wireless) this month. It is fitting therefore that we should pay tribute to the man who has been a true friend to every law-abiding Amateur, and a kindly and tolerant judge whenever a transgressor has been apprehended.

Mr. Martin commenced his long association with the radio communication field in the United Kingdom in 1890 and served for some years as a marine operator before he was brought to Australia by the Commonwealth Government in 1912 in connection with the foundation of the Australian Coastal Radio Service.

After serving as officer-in-charge of various coastal stations throughout the Commonwealth, including VIM Melbourne when it was located in the Domain, Mr. Martin joined the staff of the Wireless Branch of the Postmaster-General's Department where he rose to his present position of Assistant Director General (Wireless).

Mr. Martin has played a leading part in the development of broadcasting and radio communication in Australia and on several occasions

has represented the Commonwealth at important International Telecommunication Conferences. Throughout his official career, Mr. Martin has always proved a most able administrator and has earned the respect of all for his outstanding honesty of purpose.

Jack Martin has always been keenly interested in the welfare of Amateurs, and from the very inception of the Wireless Institute (Victoria) in 1910 has maintained a close liaison with this Institute—in fact Federal Executive knows of no other person more capable of writing the history of the Institute than Jack Martin; maybe we can induce him to undertake the task to wile away his leisure hours after his retirement!

Mr. Martin's farsightedness in recognising the true public worth of the Amateur, both in peace time and war, has won for him a place in the hearts of all. We take this opportunity of passing on to him the very best 73's. May his days of retirement be filled with happy memories of his associations with us and may he carry with him always the appreciation and esteem of the Amateurs of Australia.

FEDERAL EXECUTIVE

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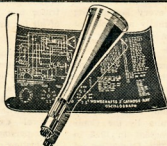


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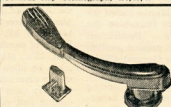
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# "How's My Modulation O.M.?"

BY J. DUNCAN,\* VK3VZ, AND LEN JACKSON†

● Every Amateur has heard the above question asked many times on our bands, and with it is the admission that adequate means of knowing the depth of modulation does not exist at that station, therefore apart from the fact that the regulations are not being adhered to, the operator is not obtaining the maximum efficiency from his transmission because only by correctly modulating his carrier can he use his equipment to its best advantage.

With the installation of the new VK3WI in the Victorian Division's records, and the fact that it would be operated by about twelve pairs of Amateurs on a roster system, a simple and effective means of indicating modulation depth was urgently required.

It fell to the writers to design and build a suitable indicator, which would be supplementary to the phone monitor which keeps an adequate check on speech quality.

It was felt that any modulation indicator which uses a meter would be too heavily damped in its movement to show the peaks which cause over-modulation and its attendant splatter, so a c.r.o. indicator was decided upon as it is instantaneous in its action.

Finally it was necessary to decide which modulation figure, trapezoidal or envelope, would be best. We came to the conclusion that both patterns had their respective advantages, and therefore decided to make either one available at the flick of a switch. After much experimenting, a simple indicator was built and is now giving very satisfactory operation at VK3WI.

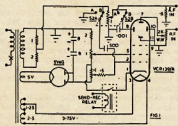


Fig. 1 shows the schematic diagram. P.T. is an old power transformer taken from the junk box, a relic of the days when filaments were 2.5 volts. By using one 2.5v. winding in series with half the second 2.5v. winding, 3.75 volts was available for the VCR139A c.r. tube. The 5 volt winding being used for the 5Y4G rectifier. The secondary was 385v. aside, and in our case only one half of the winding was used. However, if the

intensity is not enough, use the 385v. winding in series. Two 8 uF. 600 volt electrolytic condensers are series connected, and the bleeder consists of a 2 meg. resistor and the focus and intensity pots.

Connections to the VCR139A are quite conventional, except for the 0.5 meg. resistor in series with the intensity control. A relay contact is provided in the cathode lead of the VCR139A to remove the trace and prevent the screen being damaged when receiving.

Two deflector plates and the No. 2 anode are tied together and grounded, whilst the r.f. is applied to the vertical plate via the 2,000 ohm wire wound potentiometer. It was found that carbon pots did not stand up to the r.f. and the wire wound worked excellently. In the case of VK3WI, a one-turn link is loosely coupled to the antenna tuning coil, although a single wire near the feeders serves quite well.

The horizontal sweep for the envelope pattern is obtained by using 50 cycles to the horizontal plate and blanking out the return trace by applying a negative pulse to the grid.

The a.c. 50 cycle voltage is picked off the junction of the 1 and 2 meg. resistors across the power transformer secondary, and applied to the 1 meg. potentiometer. When S2B is in position B, this voltage is applied to the horizontal plate of the c.r. tube. At the same time, S2A applies a.c. to the grid of the c.r.o. tube via the 500 pF. condenser, thereby blanking out the return trace. This gives a linear sweep over portion of the full a.c. cycle. If the 500 pF. capacity is too large, the intensity control will not function, so choose a value which will give normal operation of the intensity and focussing controls.

When switched to position A, S2A grounds this condenser, and the second switch section swings the horizontal plate to a terminal on the rear of the unit to receive audio from the modulator.

It is most important that the 0.001 uF. r.f. by-pass on the horizontal plate of the c.r. tube be located on the tube base, otherwise the r.f. envelope will not be vertical, but will tilt to one side due to r.f. leaking into the horizontal plate of the c.r. tube. Watch this point carefully.

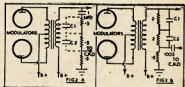
It will be noted that the horizontal gain control does not operate when the trapezoidal pattern is being viewed, this is not a mistake in the drawing, but was found necessary to avoid a variable audio phase shift as the potentiometer was varied, which brings us to a very important point with regard to the tapping of the audio from the modulator.

## TAPPING OF AUDIO FROM THE MODULATOR

The following section of the description is treated rather fully, as much trouble was experienced here and reference to the standard textbooks failed to produce any help. This information is therefore furnished in the hope that it may benefit others who have experienced similar trouble.

The circuit first used for connection to the modulator was as shown in Fig. 2B, but without the condensers C1 and C2. The 0.005 uF. condenser was connected as shown, rather than as in Fig. 2A, to enable a condenser of lower voltage rating to be used. However, a correct pattern could not be obtained on the screen, the sides of the trapezoid figure being elliptical instead of straight. This type of pattern is shown in the A.R.R.L. Handbook as occurring when the audio voltage is taken from a stage in the modulator other than the final.

It was reasoned correctly that this was due to a phase shift in the audio coupling network, but the reason was at first a little obscure. The 0.005 uF. condenser was at first suspected, but increasing this to as large as 1 uF. made no difference. Next the circuit was altered to that shown in Fig. 2A, but again without C1 and C2. This is the circuit generally given in the text books. However, results were still the same.



The next point of attack was the 0.001 uF. r.f. by-pass on the horizontal plate of the c.r. tube. Here more promising results were obtained. This by-pass was gradually reduced in value, and each time an improvement in the pattern was obtained, although some small phase shift was obtained even with this by-pass eliminated altogether. Also, as the by-pass was reduced, the envelope pattern started to lean heavily to one side, and the smallest value that could be tolerated from this aspect was 0.0001 uF., which still gave a large phase shift on the trapezoid pattern. Therefore another line of attack was decided on.

If the by-pass from the horizontal plate to earth produced a phase shift, why not connect another condenser from the horizontal plate to the full modulator output, across the upper half of the resistance voltage divider, and thereby produce an equal and opposite phase shift, the two then cancelling?

This was tried with an immediate improvement in results. The circuit of Fig. 2A was first tried, the compensating condenser being split into two equal series condensers C1 and C2, since a single condenser of adequate voltage rating (2,000v.) was not available. With a little experiment in the values, the phase shift was completely eliminated. However, immediately the horizontal gain control was shifted, the phase shift re-appeared, so the circuit was changed, as mentioned earlier, to remove this control from the circuit on the trapezoid pattern.

The only point which still caused us worry now was the 0.005 uF. condenser. This was only of 1,200v. rating, which was not high enough for the circuit of Fig. 2A, with 1,000 volts d.c. on the line, and a 2,000v. condenser, the lowest rating acceptable, was not available. So

(Continued on Page 5)

\* Technical Editor, 23 Parkside Avenue, Balwyn, Vic.

† 8 Austin Street, Bentleigh, S.E.14, Vic.

# TELEVISION MADE EASY—Part 1

BY JOHN JARMAN,\* VK3ADA

When television is established in Australia, will your rig interfere with television reception. Will you be able to prevent such interference? If a neighbour complains of such interference, will you be able to prove your rig "innocent," and help the complainant to locate the source of the trouble? No matter how we attempt to answer these questions, we seem to always reach the same conclusion, namely, that some knowledge of the operating principles of television is essential to every Ham.

Fortunately, there are now many good courses of study, on this subject, now available in Australia; some by correspondence, and other in serial form in current magazines, so we need not be "left in the dark."

However, for the benefit of the Ham, who cannot conveniently undertake a full course of training, we shall endeavour, in this series of articles, to outline the general principles of television, in simple language, dealing only with the aspects of the subject that directly concern the Ham or, to be more exact, we shall cover only the main facts that one needs to know, in order to help prevent interference to television reception.



Fig. 1.

(a) Line of Picture.

(b) Corresponding Signal.

First of all how does a television set work? Well, as some of us have guessed, at the transmitting end there is a television camera, which takes photos continuously like a movie camera. This guess is quite correct and, furthermore, these photos, which are taken at the rate of 25 per second, are transmitted by radio in succession.

At the receiving end these photos are received and flashed on the screen of our television set in correct sequence and because of the persistence of vision, the illusion of movement is conveyed. In other words, we are actually watching a lot of snapshots, one after the other, but because our eyes can't keep up with the rapid changing of the pictures, we think that the objects in them are moving. The sound, of course, is conveyed in the same way as in ordinary broadcasting.

Now how can photos be transmitted by radio? Well now we're getting "fair-dinkum." Before reading the answer, try this simple experiment. Take an old photo (e.g. the YL that "done you wrong") and cut it into a number of fine horizontal strips. Now examine one of these strips; it should look like Fig. 1a, consisting of a series of light and dark strokes, placed end to end.

● It is with pleasure that we are able to give readers a series of articles on Television by 3ADA. The following is an outline of the programme:—

## Part i. Introduction.

### ii. How the Television Camera Works.

### iii. What's in a Television Signal.

### iv. What's in a Television Receiver.

### v. Further Notes on Receivers.

### vi. The Receiver Synchronisation Circuit.

### vii. The "Carrier-Difference" System.

### viii. Interference, and How the Ham Can Check It.

### ix. Outline of Color Television.

Now place a number of these strips end to end. Our photo has now been transformed into nothing but a long series of light and dark strokes of varying length; yet, if we care to piece these strips together in their original order, we would have our photo again.

But what on earth has this got to do with television? Quite a lot. Just as we cut our photo into strips, and placed them end to end, the television camera splits each photo into 625 horizontal lines, and transmits them as a series of electrical impulses, something like dots and dashes. Commencing at the top left-hand corner of each photo, the camera "mechanism" converts the first line into a "burst" of pulsating d.c., as shown in Fig. 1b. Note that the brighter the portion of the strip, the higher will be the output of the camera. Study Fig. 1 carefully, before reading any further.

This process of converting a picture into electrical impulses in correct sequence is called "scanning," and the sequence is the same as reading a printed page. In other words, the camera scans each line from left to right, and

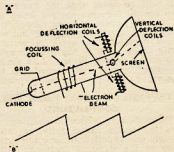


Fig. 2.

(a) Cathode Ray Tube.

(b) "Saw-Tooth" Current.

operates from the top of the picture downwards.

It is this output from the camera that modulates the transmitter, and which emerges from the receiver's detector but how is it turned back into a picture? Well, just as we pieced the strips together to make up our original photo, the receiver, by means of a moving spot of light, reproduces each line, and re-assembles them in their correct order, thus reproducing the original photo; but what am I saying! This is still "clear as mud!"

Now let's do a little more practical work. Take an electric torch, preferably of the focussing type, into a dark room and shine it on the distant wall. We see a spot of light. Now wave this torch to and fro, so that the spot moves horizontally across the wall. Now wave the torch very rapidly, still endeavouring to keep the movement horizontal. We now see not a spot, but a continuous line of light on the wall. Now what we're actually watching is still a rapidly moving spot, but it appears as a line for two reasons. Firstly, because the spot is tracing out the same path over and over again, and secondly, because its movement is so rapid that our eyes can't keep up with it.

Stretching the imagination a little, suppose the torch could be switched on and off quickly, while being waved. The "line" would no longer appear continuous, but broken, as shown in Fig. 1a.

But we have already shown that Fig. 1a represents a strip of the original picture!

Yeah man! We have actually figured out how a single line of our picture, after reaching the receiver as a stream of electrical impulses, can be converted back into a visible "strip of picture" by a moving beam of light; but how can a lot of these strips be re-assembled, to form the picture?

To answer this, let us review the operation of the cathode ray tube. Having focussed the beam of this tube to produce a fine bright spot of light on the screen, by passing a saw-tooth current through the appropriate deflection coils, we can make the spot move to and fro across the screen, and appear as a horizontal line.

If the current has the wave form shown in Fig. 2b, the spot will move comparatively slowly from left to right, then rapidly back to its starting point, and continue this movement as long as the current is flowing.

Now, through the other deflection coils, we shall pass a similar current at a lower frequency, which will tend to make the spot travel slowly from top to base of screen, and rapidly back again.

By passing both currents through their respective coils simultaneously we can make the spot trace out a zig-zag pattern, as in Fig. 3a. Just as the spot, produced on the wall by our torch, made a continuous line, the spot on our c.r.t. screen is producing a number of parallel lines.

\* A11426 L.A.C. Jarman, J.B., c/o S.L. Garden, Box 1424H, G.P.O., Adelaide. John has recently been moved to VK5 and his new call sign is not available.

Now consider the frequency of the current, which is causing the horizontal deflection of the beam. By increasing this, we can increase the number of lines on the screen, thereby bringing them closer together, until ultimately, the spaces between them will be so fine, that instead of lines, we shall see a rectangular patch of light on the screen, as shown in Fig. 3b.

Let us now vary the intensity of the spot (just as we tried to switch our torch on and off while waving it). This can be done quite easily by varying the voltage on the grid of our cathode ray tube.

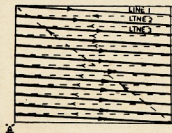


Fig. 3.

(a) Movement of Spot on Rx Screen.  
(b) In each picture, spot traces out 625 lines. Only the "left-to-right" movements of spot are visible.

Each line on the screen will no longer appear continuous, but broken, as in Fig. 1a. Suppose we connect this grid to the output of our television receiver. This will be of the form shown in Fig. 1b and each increase in voltage will make the spot brighter, and each decrease, duller, so that the line on the screen will appear as in Fig. 1a. In other words, each line of the original picture can be reproduced on the receiver screen, by allowing the received signal to modulate a rapidly moving electron beam, as it traces out the line pattern, shown in Fig. 3.

Yes, we're beginning to see daylight. Those who are not familiar with the cathode ray tube may find it helpful to study its theory of operation from any suitable text book, since space won't permit it to be covered in this series.

To sum up, the television camera takes photos continuously, at the rate of 25 per second. Each of these photos is split into 625 horizontal lines. Each of these lines is transmitted as a stream of electrical impulses, corresponding to the light and dark parts of the picture.

In the receiver, a spot of light is made to trace out, on the screen, the same number of horizontal parallel lines as contained in the original picture.

By modulating the electron beam, which produces this spot, by the received television signal, we reproduce the original lines of the picture.

Note that what one actually looks at, on the television screen, is nothing more than a rapidly moving spot of light, but because it travels over the same paths 25 times per second, we think we are seeing a picture, composed of 625 horizontal lines, all very close together. In other words, television is entirely an optical illusion, utilising the "persistence of vision" which we have already seen to be the inability of our eyes to respond to rapidly changing pictures.

Fig. 4 shows the essential parts of a television receiver and to round off this "burst" here's a few technical tit-bits which will be dealt with in detail in later articles.

To keep picture steady on the screen, receiver must be synchronised with transmitter; that is, receiver must commence reproducing each line at the same instant that the transmitter commenced scanning the same line. Therefore each line is followed by a synchronising signal, and each complete picture, by a synchronising signal of a different type, to allow receiver to distinguish one from the other. The transmitter could be compared with a good sergeant-major, calling "left-right-left!" when it inserts the synchronising pulses in the transmission, and all receivers, tuned into the programme, like well-disciplined troops, keep "in step" with the camera.

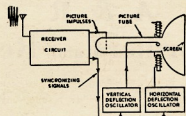


Fig. 4.—Basic Television Receiver.

All modern systems use "interlaced scanning," which simply means that each picture is scanned in two stages, instead of one. In the first stage, the camera scans all the odd lines, such as 1, 3, 5, etc., and in the second stage, all the even lines, 2, 4, 6, 8, thus completing the picture. The purpose is to double the picture frequency, to prevent flicker, without increasing the modulating frequency (which, by the way, extends from 50 cycles to 5 Mc.; as we'll learn later). Instead of transmitting 25 complete pictures per second, therefore, we handle 50 "half-pictures" as it were.

The proposed Australian system will use "negative modulation" which means that an increase in carried amplitude represents a decrease in picture brightness. The greater the amplitude, the darker the picture, as illustrated in Fig. 5.

The proposed carrier frequencies for use in Australia will extend from 180 to 204 Mc.

So much for the general outline of television. Still "clear as mud?" Don't be afraid to admit it, because this is how television theory strikes everybody at first, but believe it or not, after reading through this article several times, you'll find it's actually quite simple.

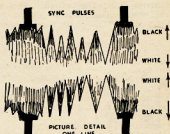


Fig. 5.

Modulation Pattern of Television Signal.

Furthermore, I would like to encourage the reader to submit all queries concerning television, by post, to VK3ADA at the given address. Replies will be promptly made out in duplicate, one copy submitted to this magazine, for publication, when space permits, so that fellow readers may benefit, and the other copy mailed to the inquirer direct. Don't be afraid to ask, because this is how we learn the most, and remember, what one fool can learn, so can another!

CUAGN next month.

## "How's My Modulation O.M.?"

(Continued from Page 3)

the circuit was altered again to that of Fig. 2B, which requires only a rating on this condenser of 500v, min., and with some slight adjustment to the values of C1 and C2, everything worked perfectly. These condensers were made 0.0001 uF. each, and 1,000v. rating. Thus the two in series gave us 50 pF. at 2,000v.

If for any reason the values of the resistors in the voltage divider network are changed, then, of course, the condensers have to be changed accordingly. The condenser network, formed by C1 and C2 in series in the upper half, and the 0.001 uF. by-pass in the lower half, must have approximately the same ratio of reactances as the resistance ratio, it being realised that the lower half of the resistance network is formed by the 0.5 meg. input resistor to the indicator in parallel with the resistor in the lower half of the network.

**Summarizing:** Build the Modulation Indicator as shown. Wire in the modulator divider as shown in Fig. 2A or 2B, but without C1 or C2. Set the value of the resistor in the bottom end of this network to give a satisfactory horizontal deflection on the c.r. tube. Apply a sine wave to the speech amplifier (whistling steadily will do the trick), and observe the degree of ellipse on the trapezoidal pattern. If you are lucky and there is none leave everything as is, but if there is phase shift, try different values of C1 plus C2, until the phase shift is corrected.



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Valves, new, boxed, RCA 834s, £1/8/- each.

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Aware of these requirements, we have, for quite some time, been manufacturing wide frequency range Audio Transformers for almost every purpose. Our catalogue of Transformers and Reactors, which may be obtained on request, gives a large selection to choose from, whether the requirements be for Audio, Radio, Theatre, Domestic or Industrial use.

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Phones: MX 1159, MX 1150



# AMATEUR CALL SIGNS

## FOR MONTHS OF JUNE AND JULY, 1951

**ADDITIONS**  
**New South Wales**  
 2J5-R. W. Easterbrook, 9 Barkers Rd., Strathfield.  
 2LA-W. A. Stirling, 9 Vera Street, Corowa.  
 2ABE-R. A. J. Taylor, Boundary St., Bega.  
 2AFW-J. A. Hampel, 503 Radium St., Broken Hill.  
 VK2AWI-Wireless Institute of Australia, 10 Clarence Street, Sydney.

**Victoria**  
 3GP-R. C. Steele, Flat 4, 181 Brighton Road, Elwood.  
 3HQ-W. D. Ruff, 85 Warrigal Road, Oakleigh.  
 3IB-A. C. Hawker, c/o Broadcasting Station 3LK, Luback.  
 3JZ-P. D. Williams, 26 Batt Ave., Wodonga.  
 3ADT-J. J. Mount, 5 Cornell St., Camberwell.  
 3AGQ-M. A. L. Collins, 18 Natimuk Rd., Horsham.  
 3AGK-G. E. Archibald, 28 Hilltop Ave., Glen Iris.  
 3AGZ-W. A. Faul, 67 Hare Street, Echuca.

### DEPARTMENT OF EXTERNAL AFFAIRS ANTARCTIC DIVISION

#### RADIO TELEGRAPHY OPERATOR

Wanted, Radio Telegraphy Operators for each of the Australian Scientific Stations at Heard and Macquarie Islands.

Applicants should be fully qualified and possess a Commercial Operator's Certificate or have equivalent service experience together with wide experience in operation and maintenance of ground installations.

They will be required to operate Wireless Telegraphy apparatus at the Australian Scientific Station at Heard or Macquarie Islands.

Salary range £692 to £728 plus special hardship allowance. Period of stay approximately twelve months.

Applicants should be young, healthy and interested in outdoor activities such as walking, ski-ing and mountaineering, etc.

Full details on application to the Secretary, Antarctic Division, Department of External Affairs, Albert Park, St. Kilda, Melbourne, Victoria.

3ALN-A. S. W. Taylor, Government Aerodrome, Mangalore.

3AWJ-D. J. Williams, 6 Scotia St., Preston, N.18

**Queensland**  
 4FT-J. A. Weddell, 198 Ekinbri Rd., Annerley, Brisbane.  
 4LR-L. R. Newsome, 13 Sheriff St., Townsville.  
 4TN-A. Harris, 15 Turner St., Windsor, N.3, Brisbane.

**South Australia**  
 5AJ-W. R. Adey, 27 Rivers St., St. Peters, Adelaide.  
 5CF-M. T. Nicolson, 11 Riverside Ave., Berri.  
 5JB-M. G. White, 102 Raglan St., Harcourt Gardens.  
 5RG-R. S. Gurr, 21 Osmond St., St. Leonards, Glenelg.  
 5TG-F. H. Taylor, 114 Marlborough Ave., Woodville Park, Kilkenner.  
 5TS-A. C. Styles, Hut T10, R.A.A.F. Station, Darwin, N.T.  
 5WQ-C. C. Quinn, Freeling.

**Western Australia**  
 6AT-A. T. Hanson, 35 Joyce St., Scarborough, Perth.

**Tasmania**  
 7LX-K. J. Briggs, 18 Melbourne St., Launceston.  
 7WA-E. F. Walker, 43 Cunningham St., South Burnie.

**Territories**  
 9XK-S. R. Coleston, Lighthouse Depot, Samarai, T.N.G.

**ALTERATIONS**  
**New South Wales**  
 2BG-7 Wandan Ave., Beecroft, Sydney.  
 2BW-196 Baylis Street, Wagga Wagga.  
 2ER-10 Meek Street, Kingsford.  
 2FE-Beaumont Road, Mount Ku-Ring-Gai.  
 2GY-45 Taren Road South, Caringbah.  
 2IL-4 Perkins St., West Ryde, Sydney.  
 2KL-Lot 26, Waldran Road, Chester Hill.  
 2MD-No. 2, The Drive, Concord West.  
 2SE-21 Cleone St., Guildford.  
 2TZ-145 Commonwealth St., Surrey Hills.  
 2UH-5 Towns Cres., Turner, Canberra, A.C.T.  
 2UK-33 Mario St., Towradgi, via Corrimal.  
 2WP-39 Emily Street, Marks Point.  
 2YQ-Edward Street, Barraba.  
 2AAG-"Elanora", Main Rd., Mark's Point, N.2  
 2AAN-22 First Avenue, Eastwood.  
 2ADP-Stafford Street, Penrith.  
 2AHK-Paddy's Plains, North Dorrigo.  
 2AIL-13 Coveclee Circuit, Middle Cove, East Willoughby, Sydney.  
 2AJT-River Street, Ballina.  
 2AKV-R.M.B. 113, Kurrangong Heights.  
 2ALY-22 Beaconsfield Street, Newport.  
 2AN3-73 Boorara Avenue, Ostley.  
 2AP-11 Sunshine Street, Manly Vale.  
 2ASP-Maining Street, Eden.  
 2AST-145 Lyons Road, Drummoyne.

**Victoria**  
 3CT-18 Harrison Street, Ringwood.  
 3JQ-O.T.C.A. Wireless Station, Piekville, via Ballan.  
 3JT-"Linden Court," 20 Mason St., Hawthorn.  
 3NG-166 Como Parade, Mentone.  
 3NL-2 Bertram Street, Mordiallo.  
 3PR-81 McCartin Street, Leonatha.  
 3QK-415 St. Kilda Street, Elwood.  
 3RQ-Luckie Street, Nunawading.  
 3WR-C/o. Mission to Seamen, Beach Road, Port Melbourne.  
 3YG-21 Hughes Street, East Brighton.  
 3AAQ-Lake Street, Wendouree, Ballarat.  
 3ACM-Ballandale, via Rochester.  
 3AGG-5 Wynnam Street, Shepparton.  
 3ARG-57 Ewart Street, Malvern.  
 3ASG-2 Bardia Street, Ringwood.  
 3ASJ-King Street, Ararat.  
 3AKB-3 Martians Court, Balwyn, E.8.  
 3AWL-21 Kerferd Road, Albert Park.

**Queensland**  
 4BJ-48 Lamb Street, Bundaberg.  
 4EW-Off Kerry Road, Archerfield, via Cooper's Plains.  
 4GB-Cr. Daisy and Davidson St., Wynnum, E.2.  
 4IN-103 Stoneleigh Street, Windsor.  
 4MC-Brown Pde., Oakleigh, via Ashgrove, Brisbane.  
 4ST-Dunbar Street, Woody Point.

**South Australia**  
 5FJ-15 Montacute Rd., Campbelltown, Adelaide.  
 5FY-60 Kittel Street, Whyalla.  
 5LZ-78 Lynnhill Avenue, Brighton Park.  
 5FJ-52 Hunter Crescent, Salisbury.  
 5QI-11 Old Beach Rd., Brighton, Adelaide.  
 5BR-33a Torrens Road, Kilkenner.

**Western Australia**  
 6CD-259 River View Ter., Mt. Pleasant, Perth.  
 6GD-Wharf Street, Queens Park.  
 6GK-128 Wittenoom Street, Brighton Park.  
 6GU-15 Lilly Street, South Fremantle.  
 6QF-52 Hunter Crescent, Salisbury.  
 6QI-11 Old Beach Rd., Brighton, Adelaide.  
 6PR-20 Sasse Avenue, Moss Vale, New South Wales.  
**Tasmania**  
 7CL-2 Midwood Street, New Town.  
 7MA-Storeys Creek, via Avoca.

7NM-78 Dodgin Street, Wynyard.  
 7XL-John Street, East Devonport.

**Territories**  
 9AB-3 Mile, Rouna Rd., Port Moresby, T.N.G.  
 (Postal: C/o. Dept. Civil Aviation, Port Moresby, T.N.G.)  
 9KT-C/o. Dist. Services, Port Moresby, T.N.G.

**DELETIONS**  
**New South Wales**  
 VK-2LP-Cancelled.  
 2VW-Cancelled.  
 2WN-Cancelled.  
 2AJQ-Cancelled.  
 2AL-Cancelled.  
 2ARQ-Cancelled, now operating under VK5RG.  
 2AWE-Cancelled.  
 2AWV-Cancelled, now operat. under VK3ADT.  
 2AZI-Cancelled.

**Victoria**  
 3RM-Cancelled, now operating under VK2TS.  
 3WQ-Cancelled, now operating under VK5WQ.  
 3ADV-Cancelled.  
 3AEV-Cancelled.  
 3AEV-Cancelled.  
 3ALF-Cancelled, now operating under VK5AT.  
 3ARC-Cancelled; now operating under VK2RC.

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## DX NOTES BY VK4OL

Had the test completed and have received some further gins from two of the gang, so here we go again. These "late releases" con-month which is a general complaint. Up here, the only time when you could reliably expect to hear DX was on the 14 Mc. band between 1000 and 1100 hours. The "late releases" estimates that those periods would see it out. At the end of the month, the band was practically empty. The "late releases" estimates that it was a waste of time to listen on this band, and 7 Mc. was little better. This band did not maintain the promise of the "late releases" month, and here we fall into the doldrums. The "late releases" estimates that the East coast also kept quite a few out of the shack during the hours of darkness. The "late releases" estimates that the "late releases" breakfast was a KLT, and he was worked first call, yet I can't raise the Europeans when they are working about six or seven South Americans, when he worked about six or seven South Americans,

Survey of the bands is as follows, stations worked being shown \*.

3.5 Mc.: Both 7RK and myself found this band the same. All signals well down and rather noisy. The only strong signals here were the VK2s on the North Coast. 5WO finds power noise too high for him to do much on

7 Me.: Not much to report in the way of consistency from anybody. TRK hears N. Americans in the early evening, but here not even getting that, as they are well down in strength when they do get through, except for one night which produced strong signals, and the same was apparent in the States. The thing of note for this band has been the appearance of South Americans. 2DG worked IUBCD at 0630 G.M.T.

\_\_\_\_\_

and I worked LUTCD at 0800 G.M.T. 5JE heard a 2L work LURVE and a VK3 work G5LI in the late afternoon, but could not hear either DX station. 7LZ worked G5LI at 0600 G.M.T., and said it's a matter of being round at the right time on this band. 5JE did work KP4CC, but 5WO said he is finding great difficulty in evenings to even work Ws. Outside the odd weak Europeans in the mornings, the listings here are VQ4BB, IS1FIC, YU1AFG, LU8YB, LUTCD\*, LU4BH at 2130 G.M.T. 7RK and 7LZ: G5LI\*, VR2BZ\*, and V87.

**14 Me:** The band has been very erratic and was in very bad shape by the end of the month. 3XU, who was doing OK early in the month, was out of the band by the end of the month. To raise this month. I noticed the band pick up between 11th and 19th, but from then a G.M.T. was useless. On the 18th, a high noise level existed everywhere, including overseas. Despite this, some signals from DX have been heard at unexpected times. 5V0AB 630 G.M.T., 0330, VP4BT 0120, and V57NG worked by TRK at 0440. On the 28th, an S8 signal was coming from 3XU, but it was not clear. On the 29th, ZC4MF, yet despite many VK calls, was only hearing and working stations close to his own. Nothing outstanding, which is more than I can.

Listings are –2DG: C9ABW, LZ1AA, HYCC  
 Trieste\*, FFJ3C, EA9BA, HLIAC, VQCB  
 after two years chase. 2ACX: 7B4GF, 3A2AC  
 FR1LA, Z53K, 30W: FA9VN, EA7CA  
 PK5AA, 954AR, CJBK, VPTNU, FR1ZA,  
 954AR, 1XU, 1Z0B, 954AR, 1M3ZX, Z1B0S, Z1B1J, UB5DL  
 KVAQ, 4BG: HC1GF, SP1SJ, F18RO, AC2RC  
 9V9V/FC, PX1A, YU3AD, CP5EQ, 5WO:  
 FR1ZA, 78R/TLZ: 2M5AK, UB5DL, 4X4AT  
 954AR, H18R, 954AR, 5X1KA, 954AR, 1H  
 1HAHR, PK5AA, 954AR, K5AQ, Y7NOC,  
 XUEF, Q1L: M2J2B, C3FA, 5VOAB, 1SIAHK,  
 VPTNU, EA8B5, 0E13FM, VP5BJ, VP5BL  
 954AX, ZDZDZC, 1HAHR, M1, 1S1FC, Q55LL  
 EKIDS, EK1AD, Y7NOC, YN3AG, Q8L via  
 954AR, 954AR, 954AR, 954AR, 954AR

28 Mc: This band looks as though it has "had it" at the present time. Anytime I or TRK listened, there was nothing worth worrying about.

ON4QF was operating the 7B4QF that some were lucky enough to fasten on to. He was operating from Andorra as he said he was attempting to (see "A.R." note in an.) and is now back in ON4 again, having been heard this month.

2ACX has now worked 216 countries with 2DI close behind at 215. Arthur has sent 202 cards over to A.R.R.L. for DX CC. Mope you don't lose 'em like I did registered and all. I'm sure you can't get any more. I'm appearing on the band has given those well up on countries a new one to chase, but to date he hasn't been heard here. I'm wondering whether the name of the new guy 7 in the 20W makes him a possible "Joey." No need to worry Austin, as there are a few French colonies that he can work. I've heard him on the QSL from FM7. 20W had a few 5 a.m. sessions to try and get himself a South African, but all to no avail. Keep your eye on Mike Gordon, he may be a little LIBBY. I've heard him on the Mc. almost two years ago and has just received his QSL. Wonder how long a 14 Mc.

I was very pleased the other day on opening a letter from the A.R.R.L., to find in it a Certificate telling me of election to membership of the A-1 Operators Club. Had indeed wondered just what it was, and in case there are others in the same boat, here is the score. Membership is by nomination of existing members, and the Certificate bears the annotation, "The A-1 Operators Club represents adherence to the several principles of good operating: (1) careful keying and good voice operating practice, (2) correct procedure, (3) copying ability, (4) judgment and courtesy."

QSLs for the month are: OQ5LL, UO5KAA, KG4AD, FO8AC, KX6BI, FK8SD, FPIAC, VQ2GW. For 7 Mc.: VQ2GW, ZS5LZ, HA4SA, ZS6OS, 4X4BX, ZS6RB, ZS6XC, OK1SK, bringing confirmations to 119. My thanks to all who have supplied material for this month.

● The thought for the month: "Let your actions and operating on the air make you eligible for membership of the A-1 Operators Club. You never know who is listening."

Cheers until next month.—FIT/Lt. F. T. Hine, No. 10 (G.R.) Squadron, R.A.F. Townsville.

## IONOSPHERIC PREDICTIONS FOR THE AMATEUR BANDS

SEPTEMBER, 1951

The accompanying charts have been prepared by the Ionospheric Prediction Service of the Commonwealth Observatory. The first set of the series was published in the November, 1948, issue of this magazine, together with an article explaining the nature of the forecasts and how to use them. Nine of the charts, prefixed by the letter "C", are for the forecasts for the South-Eastern Australian States. The remainder, prefixed by the letter "P" for Perth, are for Western Australia.

The Canberra charts refer to the following world zones:—

Zone	Region	Terminal
1.	Western Europe	London
2.	Mediterranean	Cairo
3.	N.-West America	San Francisco
3a.	N.-East America	New York
4.	Central America	Barbados
5.	South Africa	Capetown
6.	Far East	Manila

The forecasts have actually been prepared for point-to-point circuits between Canberra and the overseas terminals mentioned in the above table. It is, however, to be expected that the charts will provide an approximate indication of ionospheric conditions for all Amateur contacts from South Eastern Australia to the various world zones.

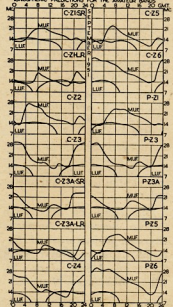
The Perth charts are similar to those based on Canberra. No forecasts are given from Perth to Zones Z3 and Z4 for the current months, as chart P-Z3 would be essentially similar to chart P-Z1, while chart P-Z4 might be unreliable due to auroral activity in high northern latitudes.

## USE OF CHARTS

All that is necessary in using the charts is to select a time (G.M.T.) during which a specified Amateur band frequency is below the maximum usable frequency (m.u.f.) of the F region of the ionosphere but above the lowest useful frequency (L.u.f.) for the desired contact. In two cases, Zones 1 and 3a, it is necessary to consult both the short-route (S.R.) chart and the following long-route (L.R.) chart.

The Prediction Service welcomes comments on the accuracy of its predictions. These should be forwarded through the W.I.A.

ENERGETIC PREDICTIONS FOR THE ALKYLING REACTION



### DX C.C. LISTING

PHONE					
Call	No.	Ctr.	Call	No.	Ctr.
VK3EE	10	158	VK4JP	8	114
VK3JD	1	155	VK3AWW	14	112
VK6RU	2	147	VK4WJ	17	104
VK6KW	4	145	VK4DG	20	104
VK4HR	12	135	VK2ADT	13	102
VK3BZ	3	141	VK2AHA	13	102
VK4KS	9	135	VK4WF	16	101
VK3LN	11	132	VK6PJ	19	101
VK6DD	6	126	VK3GG	18	100
VK3JE	7	123	VK3IG	8	100

CW					
Call	No.	Ctr.	Call	No.	Ctr.
VK3BZ	5	189	VK3JJ	25	118
VK3FH	9	163	VK3JUM	12	116
VK2PH	15	180	VK4FJ	29	115
VK3CZ	15	180	VK3KZ	29	115
VK3CN	1	151	VK4DA	7	113
VK6SA	28	180	VK3PL	38	113
VK4UW	1	140	VK3QZ	38	113
VK2QL	4	141	VK4QL	36	110
VK3VW	5	140	VK4RC	13	107
VK3VZ	10	138	VK3VZ	34	103
VK2GJ	16	132	VK2VZ	34	103
VK6HU	18	132	VK3HT	37	103
VK3FTH	33	128	VK3FA	14	103
VK3BO	33	128	VK3CN	19	101
VK5RX	33	128	VK3CX	26	101
VK4SF	20	125	VK3CZ	22	100
VK4DO	20	125	VK7RK	22	100
VK3JE	21	124	VK7LJ	24	100
VK3VZ	1	124	VK3VZ	24	100

OPEN				
Call	No.	Ctr.	Call	No. Ctr.
VK3BR	4	202	VK3AWW	45 115
VK3HZ	7	107	VK3JA	14 113
VK3MF	12	180	VK3AT	13 113
VK8RU	8	179	VK3VQ	46 112
VK3HG	3	171	VK3PG	47 111
VK3CK	1	170	VK4BG	21 109
VK6KW	13	165	VK3ZB	34 110
VK4EL	10	163	VK4WF	40 109
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VK3JG	11	159	VK3VY	17 107
VK4KS	24	149	VK3AWN	38 105
VK5FL	26	143	VK2VN	18 104
VK3MG	1	142	VK4VJ	27 104
VK3OP	19	137	VK6PJ	44 104
VK8DD	22	136	VK2HZ	17 103
VK3LN	29	135	VK7KB	30 103
VK4FJ	1	134	VK7PT	32 103
VK2ADE	28	133	VK3HO	38 103
VK2AHA	9	128	VK6DX	42 103
VK2AHM	30	125	VK7KR	31 102
VK2NM	1	124	VK4G	41 102
VK3HT	41	123	VK9GW	48 102
VK3JJ	33	119	VK2ACX	6 100
VK3TLZ	33	116	VK2PT	39 100
			VK3NM	49 100

# FIFTY MEGACYCLES AND ABOVE

Compiled by J. K. RIDGWAY, VK3CR.

## NEW SOUTH WALES

This month interest has centred on 144 Mc. owing to the Contest which took the few remaining 50 Mc. stations to the higher band. No openings have been reported on 50 Mc., so for this month there will be no 50 Mc. news.

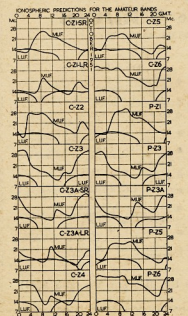
144 Mc. News: July has been a time of much activity on this band. First of all there was the Contest, followed by a week-end trip by 2HL from Sydney to Bathurst with frequent stops to work the Tx.

The Contest was extremely well supported—sixty-six stations taking part over the three week-ends. General trend of comment is that the Contest is too long and a few very interesting suggestions have been made regarding alterations for future Contests. Unlike last year's Contest, the last day was extremely busy—one contestant working 45 stations for the day. A pleasing feature of the Contest was the appearance of 2KR (Woy Woy) and 2GA (Ettalong). The latter, in his enthusiasm, came on before completing the job of setting up his 222 Tx and had to unsolder the feed line every time he went from transmit to receive. John is putting a good signal into Sydney considering the extremely difficult path to be covered. 2KR is still comparatively weak at this location, but the new three over three should improve matters. Cec is keeping daily skeys with 2ANF on 144 Mc. at 1215, so anyone around at that time should keep a look out for Cec.

2ADT made very few contacts as conditions were not so kind as they were last year. 2LZ managed to work 2ANU again and seems to receive signals from that direction with ease. Wollongong stations were said to be active during the Contest, but no trace of them was heard in Sydney.

## 50 Mc. W.A.S.

Call	Certificate Number	Additional Countries
VK2WJ	13	3
VK4RY	1	1
VK2WV	9	2
VK3LC	1	1
VK6DW	3	1
VK4SR	1	1
VK3PG	5	1
VK2RE	8	1
VK2ET	1	1
2K2AEZ	10	1
VK3XA	11	1
VK3GM	8	1
VK3ABC	8	1



2HL created considerable interest with his trip to Bathurst and back, surveying the locations for a proposed field day with the Gladesville Club. Unfortunately Horrie's Tx was not playing the game although his Rx was quite a fair job. Leaving Sydney at 7.30 a.m. on the Saturday, 2HL proceeded due south. The mountains ahead at the same time 2ANF proceeded to Kurrajong. 2LZ, at Wentworth Falls, provided very welcome assistance in arranging the contest, but unfortunately 2ANF and 2HL were unable to make contact over the difficult path from Mt. Boyce to Panoroma Point at Kurrajong Heights. The main object of the test was to find out whether this path was workable.

Saturday night 2HL went to Mt. Panoroma, Bathurst, taking Trevor 2NS as passenger. The idea was to contact Sydney stations over the mountains if possible. This path has been worked on 50 Mc. The only result of the test was cold feet! On the way home on Sunday, 2HL made contact with a number of Sydney stations from Mt. Boyce and then later during mobile work from the mountains home to Sydney.

2ANF had a very interesting trip to Kurrajong and worked 35 stations during the day—almost as good as the Contest!

New stations on 50 Mc. are 2FZ, 2QC, 2GA and 2ASE. A welcome is extended to all these stations and we hope they stay with us. A number of stations went out mobile during the month, particularly during the Contest. Those heard included 2FK, 2XU, 2ABO, 2ADY, 2AZO and 2RQ apart from the two mentioned previously.

A number of the country chaps are paying rather large sums for ASV receivers (AR301). Whilst it is good to see them taking an interest in the band, the general feeling amongst the Sydney chaps is that the old ASV receivers will do more harm than good. Certainly, its performance will not reach the standard required to work long distances over difficult terrain. A far better, far cheaper and more satisfactory idea is to make a small converter to go ahead of the normal station receiver. Many good circuits are featured in the "QST" and other publications as well as the various handbooks. Those using triodes are to be preferred on account of their lower noise content.

The July meeting of the N.S.W. Group was well attended. 2HL 2MQ brought along his new final using 828s on 144 Mc. and described the procedure in calculating the dimensions of the strip line used in the linear tank circuit. Subsequent tests run on this tank showed a remarkable increase in efficiency over the older twin round lines as featured in his "A.R." article "100 Watts on 144 Mc."

It was announced at this meeting that the Sunday night 2W1 broadcasts will in future take place at 7.30 p.m. which is one half an hour earlier than the past. A committee was appointed to handle the proposed v.h.f. link to country districts and information regarding country v.h.f. stations. If you live in the country and have v.h.f. gear the V.H.F. Group wants to hear from you.

576 Mc. News: Great interest was shown in the trip made by 2BQ and the 2BQW corner jump to Kurrajong Heights recently. They had a few contacts on 144 Mc. for the Contest and then concentrated on 576 Mc. Most of the Sydney stations with gear for the band worked at excellent strength over the path of some 40 miles. Seeing the horizontal versus vertical is still in a state of flux, the group took a helix antenna which took care of both types of polarisation. The Rx in use was an ASB7, Tx a pair of RL18s. Power was supplied by the "donk". Cec's 300w. 240v. petrol elec. set.

2HO has succeeded in putting out a signal as far as 2XX at Sutherland and is considerably elated at the effort as Roy is way down at the bottom of a hollow. 2DF has two big wiggy tubes in a cavity resonator and his signal is reported as being very strong. 2JU and 2AWZ have been working both ways for 576 with good results and 2AET has started up with the RL18s he won on the last field day.

With all the new stations starting on 576, it is like 20 miles!

## VICTORIAN 576 Mc. CONTEST RULES

1. Any licensed station may participate in the Contest, but prizes will be awarded to W.I.A. members only.
2. The period of the Contest will be from 1st Sept. 1951, to 24th Nov., 1951, inclusive.
3. Long showing date, time, station worked, location (home or portable), signal reports ex-

changed, distance, and points claimed, must be signed by the operator and returned to the Secretary of the Group by 10.00 a.m. on 24th December, 1951. Winners will be announced and prizes distributed at the December meeting.

4. Only one contact with any station on any one day will be counted for the purpose of this Contest unless either or both stations have changed their location, that is, from home to portable, or vice versa, or the number of contacts with any one portable station and the station worked is increased by at least ten miles.

5. A portable station is defined as one which is operated at least ten miles away from the normal home location.

6. In accordance with each contact shall be in accordance with the following table, the distance being the air line distance between the two stations to the nearest mile.

		Up to 15 miles	1 point
15 miles and	" "	25 "	2 "
25 "	" "	35 "	3 "
35 "	" "	50 "	5 "
50 "	" "	above	10 "

7. Prizes will be awarded to the four highest scoring stations; the first prize being a pair of 2AGs.

## VICTORIAN V.H.F. GROUP NOTES

Next Group meeting is on Wednesday, 19th September at the Rooms. Listen to 3W1 broadcasts for details of the meeting. At the July meeting, Harry Chapman, 3GU, presented a very interesting and informative discourse on antennae. Figures of theoretical gain of spaced elements are given, and it is shown that for a given size of array, the gain in db. was approximately the same in both cases. More elements were needed in series direction, for example, an array of approximately 3 wavelengths dimensions has a gain of 9.8 db. when 7 elements are stacked with 6.62 wavelengths spacing, but 13 elements spaced at 12 wavelengths are needed in the series array to achieve the same gain. Harry went on to explain the free space field pattern of various arrays and showed how, by employing the binomial method of feeding stacked arrays, it was possible to cancel unwanted lobes and produce a beam with increased gain in the desired direction. As applied to a 3 element array the binomial feed requires that the centre element be fed with twice the current of the two outer elements.

The lecture was rounded off by a demonstration of construction of a two element close-spaced beam of the "Leno" type. The two elements, spaced one-eighth wavelength and mounted on a common support, were easily rotated. They were fed by an oscillator and, about four feet away, was the field strength meter which used an 0-1 Ma. meter and a IN34 detector. The signal from the antenna beam was more than enough to give full scale deflection of the meter, but rotating the antenna caused the meter to fall to zero. Harry was getting very good results on 144 Mc. with three stacked elements with binomial feed and reflectors until it came to grief in a recent gale. He has plans for a more ambitious array of which we are bound to hear more later.

After the lecture, the rules for the 576 Mc. Contest were explained and some discussion approved by the meeting.

3CI (Nagambie) is now receiving on 2 metres, but has no Tx as yet. 3BQ has a 2 metre portable a few weeks back and had contacts with 3ABA (57-9) and 3BW (scratchy), and heard 3UG. 3AF is active, but not listening every Saturday night from 7 p.m. and will transmit on 3.7 Mc.

## SOUTH AUSTRALIA

Main band of activity to report is on 288 Mc. where 29 stations are active. This band is occupied every night of the week and beams using up 20 elements are very common. No call signs is not available, but amongst them are 5RV, 5MX, 5JW, 5RO and 5ZL.

Q24 has seen a v.h.f. signal coupled once to dipole has been heard by 5QR but could not hold him on the xtal converter. 5AX is going to try 288 Mc. in place of 144. His 50 Mc. signal has seemed to improve. 5JW has built a RL18 one for 288. On 50 Mc. 5HD has good signal but only using 40 metre antenna. 5HD had a 576 Mc. antenna but has a terrific signal; QSOed 5MA one night on c.w. 5QR is lamenting, has not seen any sign of contact as yet. 576 has been quiet for some weeks. Trying Lamb noise silencer.

5WQ, Freeing, per 5JD on 7 Mc., is interested in getting going on 50 Mc. 5ST not heard since power supply failure. 5H11 still heard from chaps in Darwin re activities. Surely someone up there can drop a note to say what progress has been made, and give frequencies, etc. How about it chaps?

3GF heard on occasionally working crossband 288-50 Mc. 3CU threatened to come back on 50 Mc., so far no sign of Cliff. 5GA has 6AS working nicely now as a harmonic xtal osc.



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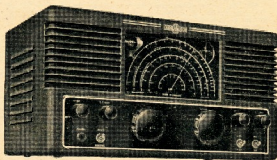
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# FEDERAL, CSL, and DIVISIONAL NOTES

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## NEW SOUTH WALES

President: John Moyle, VK3JU.  
Secretary: David H. Duff (VK3EO), Box 1734 G.P.O., Sydney.

Meeting Night: Fourth Friday of each month at Science House, Corner Gloucester and Essex Sts., Sydney.

Divisional Sub-Editor: Don B. Knock, VK3NO, 42 Yankoo Avenue, Waverley, Sydney.

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President: G. A. Semmens, VK3GS.  
Secretary: C. Dyer (VK3DY), 19 Collington Ave., Brighton (XA 6382).

Administrative Secretary: Mrs. M. Lay, Law Court Chambers, 191 Queen St., Melbourne.

Meeting Night: First Wednesday of each month at the Radio School, Melb. Technical College.

Zone Correspondents: Western: C. C. Waring, VK3YW, 18 Skene St., St. Albans; South Western: G. O'Brien, VK3AB, Killgrew, Westmore; North Eastern: T. K. Tennant, c/o. Victory Theatre, Tatura; Far North West: M. Folie, VK3JH, 101 Leiner Ave., Melbourne; Eastern: H. O. Kellas, VK3AHK, Tinambra; North Western: C. Case, VK3ACE, Cummling Ave., Birchp.

## WI BROADCASTS

All Amateurs are urged to keep these frequencies clear during, and for a period of 15 minutes after, the official Broadcasts.

VK3WI: Sundays, 1100 hours EST, 7196 Kc. and 2000 hours EST 50 and 144 Mc. No frequency checks available from VK3WI. Intra-State working frequency, 7173 Kc.

VK3WI: Sundays, 1130 hours EST, simultaneously on 5900 and 7196 Kc. and re-broadcast on 50 and 144 Mc. bands. Intra-State working frequency 7185 Kc. Individual frequency checks of Amateur Stations given when VK3WI is on the air.

VK4WI: Sundays, 0900 hours EST, simultaneously on 3750 Kc, 7196 Kc, 1432 Kc, 32.4 Mc. and 144.138 Mc. Frequency checks are given two nights weekly, and the time is announced during Sunday broadcasts. 7065 Kc. channel is used from 1000 to 1030 hours each Sunday as VK4 query service to VK4WI.

VK5WI: Sundays, 1000 hours SAST, on 7196 Kc. Frequency checks are given by VK5WI by arrangements only on the 7 and 14 Mc. bands.

VK6WI: Sundays, 0930 hours WAST, on 7196 Kc. No frequency checks available.

VK7WI: Sundays, at 1000 hours EST, on 7196 Kc. and 144 Mc. No frequency checks are available.

## QUEENSLAND

President: J. H. Farrell, VK4WJ.  
Secretary: J. F. Pickles, VK4FP, Box 636J, G.P.O., Brisbane.

Meeting Night: Third Friday in each month at the L.R.E. Rooms, Wharfedale St., Valley.  
Divisional Sub-Editor: Clive J. Cooke, VK4CC, Kurran Street, Chermiside, Brisbane.

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Secretary: G. M. Bowen, VK5XU, Box 1234K, G.P.O., Adelaide.

Meeting Night: Second Tuesday of each month at 17 Waymouth St., Adelaide.  
Divisional Sub-Editor: W. W. Parsons, VK5PS, 10 Victoria Avenue, Rose Park.

## WESTERN AUSTRALIA

President: J. Campbell-Watson, VK6JW.  
Secretary: H. B. Lang, Box NI002, G.P.O., Perth, W.A.

Meeting Place: Perth Technical College Annex, Mounts Road, Perth.  
Meeting Night: Second Monday of each month.

## TASMANIA

President: R. O'May, VK7OM.  
Secretary: L. W. Edwards, VK7LE, Box 371B, G.P.O., Hobart.

Meeting Night: First Wednesday of each month at the Photographic Society's Rooms, 163 Liverpool St., Hobart.  
Divisional Sub-Editor: S. Excell, VK7SJ, 77 Mille St., Hobart, Tasmania.  
North Zone Correspondent: C. A. Cullinan, VK7XW, 12 Montrose Place, Launceston.

## FEDERAL

### CORRESPONDENTS REQUESTED

The Federal Secretary has received a letter from WIGEN which it is desired be published for any Australian Amateurs who might be interested in corresponding with Miss Conen. It read as follows:—

2058 Evansdale Ave.,  
Toledo 7, Ohio, U.S.A.

Dear Mr. Hull,

I am an Amateur Radio Operator and live in the U.S.A. A number of my classmates are writing to pen-pals in other countries, and being an Amateur Radio Operator I would like to acquire some pen-pals in other countries that are Amateur Radio Operators or are interested in Amateur Radio Operators or the American Radio Relay League concerning this, and they sent me a list of the countries in the I.A.R.U. and advised me to write to them.

I am 18 years old and will be a senior in high school this fall. At the present I am operating on the lower frequencies running low power, and I have not contacted any other countries as yet.

I wonder if you would know of any Amateur Radio Operators in Australia, from 18 to 25 years old, that would be interested in writing to me. I would greatly appreciate any information on this and hope to hear from you soon. Until then, the very best 73's and DX.

Sincerely yours,

(Signed) MISS CAROLYN CONEN.

Here's a real opportunity for you young 'uns to get in and work some domestic DX! Why, when I was your age I'd ... well, it doesn't matter, but take a tip from the old-timers.

### FEDERAL CONSTITUTIONAL ALTERATIONS

Federal Executive, on behalf of the Federal Council of the W.I.A., hereby gives notice that it is intended to alter the Federal Constitution of the W.I.A. (as amended 1947).

Section 21 as follows: By deleting the words "within 60 days immediately preceding" and inserting in lieu thereof "60 days prior to."

Section 28 as follows: (a) Deleting the words "the Headquarters" in lines three and four, and inserting the word "any" in lieu thereof; and (b) deleting the words "the Headquarters" in line 7, and inserting the word "appropriate" in lieu thereof.

## SILENT KEY

It is with deep regret that we record the passing of:—

VK5NM—Mal Mayer, July, 1951.

### N.F.D. CONTEST, 1951

Your attention is drawn to an error in the points allocation of the open section of the 1951 National Field Day Contest where VK7SR should have been shown as having gained a total of 314 points thus placing him in second position ahead of VK6WI. The log of VK7SR has been re-checked and proved to be correct as having gained second place.

Our apology to both gentlemen, and we trust VK6WI will appreciate that the mistake was purely an error in adding. Thanks!

— . . . . —

## NEW SOUTH WALES

### EASTERN SUBURBS

City and suburban zone correspondents evidently prefer to remain silent, judging by the almost complete lack of response to editorial appeals: promises notwithstanding. If, therefore, little or nothing covering the big smoke and environs appears in "A.R.", this sub-editor disclaims responsibility.

Leo AAC dropped in for a chat, during which he appealed for more co-operation in s.s.s. working. 'Twas ever thus, the pioneers never get the support they merit, but later in time

### W.I.A. ACTIVITIES CALENDAR

- September 1-29: The Jubilee Relay.
- October 13-14: VK-ZL Jubilee Contest (C.W. Section).
- October 20-21: VK-ZL Jubilee Contest (Phone Section).

Tom, Dick, and Harry will reap the benefit. 2AYE has "broken out" on 14 Mc., although the 7 Mc. first love keeps on dragging him back; Dave is erecting a centre-fed antenna for 20 metre band testing with phase modulation on 14 Mc. DX with good results. Ivan ZTN has been struggling with a 144 Mc. rush-box and has not crossed a few blind spots in the tuning range. They vanished when the 7193 detector was replaced by an acorn triode; good for the score!

What of Tom ZXB? Active on 14 Mc. phone in this area a year ago, he seems to be completely silent. A welcome is extended to Roy Heilmann, 2TH, who has opened a business in this area. Needless to say, Roy is planning to get on the air, and has a yen for v.h.f.s., especially 144 Mc. An unexpected and welcome visitor blew in the writer's station on a recent Sunday evening, in company with Doug ZLIOF. He is Frank Robb, G1TK, of Belfast, Northern Ireland. Frank, who is an inspecting radio engineer with Shorts (the Sunderland people), was on a special delivery trip in one of the new Plymouth Flying Boats acquired by G.F.A. G1TK is one of the early day DX men and his card games most c.w. DX men's collection. He is particularly well known in VK on 20 Mc. phone. He was a USA dropout in for a yarn and threatened to break out on v.h.f.

### NORTHERN SUBURBS

Nobody sends any notes in from this (or any) area, so the scribe can but snatch fragments of overheard gea for the mill. Bert ZAGW, of Lindfield, is not often on his customary 20 metre phone. One of the reasons, when he is, he conjures Gs up out of a seemingly dead band. Morrie 2VN, now in his new QTH at Killara, is not yet active as he would like to be, but keeps a sled on a round table on Saturday nights at 1930 hours on 80 metre phone with 2HC, 2CM and 2XQ. Ray 2HC is staying in the RVN vine. One of the keenest in this area, and heard on several bands including 50 and 144 Mc., is Len 2DF. He favours n.b.f.m. on all bands and can always be relied upon to conduct a two-way test with v.h.f. aspirants.

Sorry to hear that leading v.h.f. engineer Cee Cee has been on the sick list. His creation of a 576 Mc. superhet is a fine piece of work and the envy of sundry of us who perforce through lack of time (or energy) are not even at the squigger stage on the band.

A word of advice to would-be n.b.f.m.ers. Take care that you don't overdo things in the

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## Page 13



his words, "Valuable assistance was forthcoming from several stations." How I envy that guy, nobody ever seems to help me!

Cec. 2ALS has eliminated some h.c.f. from a nearby b.c. listener and by using a filter S9 signals went right out on the b.c. band. Looking forward to hearing the Wollongong and Albury gang in the Contest. 2DY, 2AMW, 2AMD and 2ON are certain and guess 2OJ and 2EU will air their rigs for a few contacts. Jim 2AKE will be active and incidentally he should have a.c. soon, bought a TAI2D so should be airing the full gallon shortly. Had QSO with Jack 3OY one night but lost him when we tried crossband; was trying a Type A Mark III, with Clamp type modulation. Believe Chick 2ALS has his indicator unit working as a c.r.o. and believe the mod. was very simple.

9PT has peculiar trouble in his rig, OK on 40, but when modulation applied on 20, everything goes haywire. Gain has to be increased to get any depth of modulation and the result thin voice quality. My own rig doing a mighty fine job of dual-band operation at the one time 40 and 20. The final tubes were mighty pretty, red and blue: OK for football jersey, but not lending itself to a good band signal. 4QL may be interested in the fact that pre-war XUEP operated from air force school Hong Kong, his name Fung Him. The 6 metre Tx at 2PD is nearly built—6V6-6V6-807, 8 Mc. rock, all that remains is to get it going just that.

## VICTORIA

### CENTRAL WESTERN ZONE

The Annual Zone Convention will be held at Ararat on Sunday, 18th September. An interesting programme has been arranged—we will be looking forward to seeing many of the voices in person. If you require accommodation contact 3GN, George Turner, 6 Queens Avenue, Ararat (Phone Ararat 292), not later than Tuesday, 11th September, as accommodation is not plentiful.

Programme: 1200 hours assembly at Ararat Town Hall, 1200 lunch, 1430 hidden transmitter hunt (3512 Kc.), 1630 end of transmitter hunt, open envelopes, 1700 back to Ararat Town Hall, 1700-1800 competition and ragchew, 1800 tea, 1900 annual meeting, presentation of prizes, talks, and home to bed.

The transmitter hunt prize is three miniature tubes, in addition a further prize for the first zone member to locate the Tx. Also there will be a prize for the best piece of home-built equipment. This will be selected by ballot of those present. Three tubes were donated by Geoff Clark, and the other two prizes by Gordon Weynton.

3HL has a cunning way of getting gear built, simply invites another Ham for a week or so and presto, latest willing victim was 3ARL who re-built the control system to single control. Lin's antenna tuning unit tried conclusions with a charge of lightning the other day with spectacular and noisy results. 3TA is very busy on commercial projects at present, has had the 'flu. 3YW tried a little transmitting minus the antenna during the zone hook-up with surprising results. 2ATH is at last getting places with a 14 Mc. beam, Trevor has the tower welded up now, so things must be getting on. A new Ham is 3AFO, Merv, is located in Horsham about four doors from Byron; welcome to the ranks OM and let's hope you keep clear of h.c.f.

3DP is at last getting near the finish of the new Rx, then off to 14 Mc. with the s.b. as Jim has about had it on 7 Mc. 3ARM is after doing on Clamp modulation, so Bob will be another of 'em. Charlie 3ACI (Lubeck) and 3IB (Dimboola) are working plenty of DX on 7 and 14 Mc. Tx is v.f.o. controlled and finishes up with an 804, antenna is centre-fed. We have made a convert to s.b. on 3.5 Mc., it won't be long now (we hope) before company arrives and our splendid isolation destroyed.

DON'T FORGET, Ararat Convention on 18th September. Zone hook-up, Sunday, 9th September, 1000 hours on 7155 Kc. approx.

### NORTH EASTERN NOTES

The night preceding the convention 3UI had many visitors, some 12 call signs were present. Alan had quite a time with two metre mobile signals coming in from all directions. After the "do" many more congregated at 3UI and a hectic day finished at a late hour. 3APF is on a trip to VK4, going in search of better weather. Peter 3TD threatening migration to two metres. You will still need a modulator Andy. 3KR and 3AGT still bashing three hours after the zone hook-up. 3UI heard from 3CI for the third hook-up in succession.

Heavy silence followed 3UI's announcement that the zone correspondent had passed the

A.O.C.P. Well fellows, I'm sorry you feel that way, but cotton wool is cheap. Many thanks to Alan for his diligent concentration in making me make the grade. Andy I think you will have a clobber. Cheers and T's till next month.

### EASTERN ZONE

I am glad to say that I have something to report this month. 3ANC has a home-brew double conversion Rx working very nicely. What about paying 3650 Kc. a visit some Sunday Norm, instead of just earbashing on 40? Cliff 3AJA has some 288 Mc. gear working, although no contacts as yet. 3ABF has discovered that to push 80 watts into parallel 807s isn't as easy as it looks! 3AMV has arrangements for the November Convention well in hand. He has also re-arranged his modulator tube line-up. Works nicely now, after a slight hold up. You should remember Martin, that although a 6BT looks just like a 6J7—well, it isn't!

3PR now in a new house and should be on the air again shortly. JWE is alleged to be learning to ski! Pleased to say that Mrs. JWE is on the mend again. Associate Leo Dwyer is anxiously awaiting the result of the last A.O. C.P. exam. 3TH very busy on the farm these days. 3QZ putting out a very nice signal on 80. 3SS still moaning about arrears of book work. 3LV another regular on 3550 Kc. 3DI, 3VL, 3US, 3AEP among the missing. What's wrong with you chaps? 3RH a proud papa, a girl, no call sign as yet!

John Jarman 3ADA is with the R.A.A.F. somewhere in VK3 and would very much like to hear from the boys in the zone. Here's his address: A11426 L.A.C. Jarman, J. B., c/o S/L. Garden, Box 14448, G.P.O., Adelaide. Go to it chaps and remember, the stamp only costs a penny! 3ABP working on 40 with voice operated carrier. What about an article for the mag Bud? That's the lot for now, except to point out to 3LV and 3AMV that, notwithstanding reports to the contrary, my spies are everywhere!

### SOUTH WESTERN ZONE

3AGD has been having trouble with floods and lost portion of his weir. 3II has new movie projector now and finds it much better than cranking the old one by hand; Leigh has a heater in the shack and is on a little more often. 3AKR thinking seriously of a.s.s.c. on 80 metres. 3ADN still very quiet on the air

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at them. Apart from a couple of contacts on 2 he is another one to comment on the quiet nature of things. 5JK has now focussed attention upon himself, not for any new type of serial, but because of his "long hair, long beard, well worned-in days; gloves, mind you. I have been given to understand that the next step for Jim is spats, and that all the Eastern Suburbs boys are wearing. "Beau Brummel" now replaces that nickname of "umbrella man."

5PS changed from temporary hiding this month and was heard-testing in his well modulated Rose Park voice on 20. Many a word heard the following day, from all walks of life, but I understand that Warwick is treating them with the same sarcasm and amount of condescending pity. 5BZ (Battler to you) was seen recently in a well known radio department talking to Norm Coleman and ensuring a tip to the mercurial and de-merits of radio sets. The arrival of the "Amateur Radio" reporter was the signal for a burst of insults from all concerned, although the name of 5DN was heard distinctly mentioned several times. 5DN, by the way, is the best broadcaster I still right footed, and I am sure the Editor is well aware of it.

The responsibilities of a member of the Advisory Council are many and frisksome, and the possession of a sense of humour plus a share of tact seems to be necessary. Another might, very respectfully point out that the practice of "bawling out" an offender on the air not only shows a lack of the above mentioned qualities, but it also lowers the status of the "bawler out" in the minds of the many unwilling listeners, to say nothing of the feeling of the offender. Another serious attribute that should be the proud standard of an Advisory Councilor, is the knowledge that in pointing the finger at another, he is also pointing it in listening to a well known "oldtimer" on 30 this last few months, I seemed to gather the impression that he was a little eccentric at times, when mentioning the fact that "my boy" was somewhat surprised to be told, "Oh yes he is very eccentric, he likes people to think so." Well, what some people do to give me a reputation for being lucky; they don't tell me that I am eccentric, they simply say, "that Parsons bloke is as silly as a wren, have you ever read the tripe he writes."

It is a remarkable thing that when you stranger to Amateur Radio is being shown over the place, the first thing that is said is "is by the way, is Vic Coombs still on the air?" I used to listen to him every Sunday morning on 40. I realise now, as he was a well known to hundreds, seems to be symbolical of Amateur Radio in VK3, and still confined to the bed of his first love, the Wireless Radio. There was a suggestion of him being given a provisional licence on 10 metres on a fixed frequency, recently, but the Wireless Branch were thumbs down on the matter.

Murray Nicholson has at last received the call sign of 5CF and has been on the air already testing his gear. Several minor faults to be cleared up, and then all will be well. SMA has now taken up the matter of relay control with a vengeance and will soon be having the slick-cutting operation of the relay. It appears that Fred's XYL appears to like the sound of c.w. better than phone because every time that he has been working Bill SHD on 9 metres into 40, he has been told, "it starts up. 5BC has been on a little on 40 lately, helping out the boys in Berri, and managing to get a few more. He has a small 10 watt 6V6 TX, although he has been very busy with his car. Hughie has also been doing a few more, and so I have been hearing a lot of the boys. I have been chopping the incidental duties associated with the wood carting, and last but not least, all the duck egg blue pretty pretties and the finishing work relating to the 88s Pat. Thanks for the 88s Pat, but don't tell Skinny.

Judging from the letters that I have received and the letters that you have received, it appears that they consider that the magazine has somewhat let them down by not describing some of the gear that is used. When I realise that the lot of the country Ham is much more difficult than the city slickers, from the viewpoint of exchanging views and seeing the other side of the coin, I am sure that the matter is one of magazine policy, and one of the few things that cannot be placed at my door, although some will ever get a pin in it on me. Nevertheless dear charming Editor, what say you?

I have been besieged this month by members wanting to know just what it was that "Doc" said in reply to the "crack" from Rose 5AJ concerning Alekstar, and also who was the member that told me that he had been to the meeting, when in fact he had been somewhere else. I regret that I mentioned these two facts in last month's notes, you nosy Parkers.

Ross SLW has recently changed to plate modulation and has acquired the best crop of good quality 6X4s and 6X5s that I have heard in VK3. He can be heard on 20 nightly asking all and sundry what the heck is wrong with his signals. I am sure he has been more controversial reports than he can handle and is slowly forming the opinion that either his listeners are ganging up on him or that they don't want to offend him. As if they could.

Ralph 5TR must have a lot of spare time on his hands because almost every week he can be heard on 20 giving details of some new radio gadget that he has just completed building. The only thing that I can think is that he does not get any help with the dishes, and has to chop the wood himself.

Congratulations are the order of the day in VK3 to the magazine for printing those Army 700 numbers that I mentioned in last month's issue. This fills a much needed want and shows that the magazine is doing all it can to give its readers service. Keep up the good work.

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## TASMANIA

Final efforts were made by interested Hams during July in an effort to raise money for the Remembrance Day Contest. Several new Tx's were completed, and from the interest taken especially in the elimination of key clicks, thumps, etc., seems c.w. will be as popular as phone. Was disappointed to hear from the North West that the VKB will not be on 30 last year in the Contest, although several new members are available and no doubt will endeavour to maintain the high standard of working for which this Division is noted. Bad luck "Doc" trust things will be OK for the ZL Contest. Saw TLL the other week looking very happy and in good spirits. He was on a tour of the Barrier Reef in the ketch "Matthew Flinders".

The monthly meeting was held at the usual spot on 1st August, the meeting being reasonably well attended. Discussion was mainly concentrated on the increase in fees made necessary in an effort to offset the increase in the cost of "Amateur Radio." A recommendation of a three shilling increase on the present fees was made by the W. J. W. The motion was carried at the General Meeting it was decided, in view of further basic wage adjustments, that five shillings would be recommended. The meeting was the unanimous decision of all those in attendance. The meeting ended at 10.30 p.m.; TOM was once again in the chair. By the time these notes appear, the v.f. rigs and r.f. meters will have arrived and distributed. Thanks must be passed to our Secretary TLE whose untiring effort made possible this distribution of disposal gear and to the VK3 Division from whom the gear was purchased.

Local rig news: I saw one recent Sunday working on 7BZ, TSD, TRX, TLG, TOM, IKA, and not forgetting TRN. Sounded like old times, hope to hear more of these in the future. TSD has been working on 40 lately, and has been doing a few more. Don things iron out OK and congratulations on the appointment as radio technician with the local council. Don is also going to be going for 2nd class ticket, which we hope both attain. TRN can be heard bowling the ZLS over on 40. TAL QRL with business, but you can bet he will be available on 11th August.

Power cuts at TRY have restricted operating time. Seen in town since his return from his sojourn in the north was "Sandy" Powell, now going to give radio to the boys on a shorty Max. TJB still active despite home building worries, believe Jack has enrolled in a brick laying course. Suggest you take over some of the building work. TJB is too busy home building.

Results are to hand of the Portable Field Day and congratulations to our own Sid Radio Club 7SR in gaining third place in the phone section of the Contest. Unfortunately several other clubs have also done well, so it is hoped everything will be in readiness next year. Welcome to Noel Kerison in obtaining his majority; call sign is eagerly awaited and when this is to hand, signals will be heard from his QTH. Believe Terry Connor is feeling fit once more after an illness. Long time since we have heard from him, so how about coming on one of these days. TKX having v.f.o. trouble.

## NORTHERN TASMANIAN ZONE

A welcome is extended to a new member to our ranks, TLL who is active on 80 and 40 metres. At the other end he is also using a 576 Mc. Rx. TGM has a new QTH well away from the main town, and is able to put up a decent antenna; Gordon does not recommend flat life and "ham" antenna systems.

The secret is out. Last time I mentioned the length of bumper bars on different cars, and now TBQ has a new car. Rumour has it that the bumpers will make excellent 144 Mc. radiators. Any truth in it? Les TDB has been doubly busy—trying to finish off his house and having to take over at b.c. station TLA following on the untimely death of TMC. TAM, our busy zone secretary, still finds time for his 144 Mc. skeds with TBQ and TLL. Les is also working on a 40 metre phone outfit and should have it working soon. Signals from TFE are expected to take some unexpected twists and turns as Bill has taken up square-dancing—anyhow he plays a very strong bass in one of our orchestras that goes out into the wilds a couple of times a week for square-dancing. How about letting us hear some of that nifty rhythm and blues?

TDS out at Longford is getting acquainted with 144 Mc. and when in full swing should give us a good show. Our zone secretary, our chief exponent of c.w. is looking with more and more disdain on phone, specially as his modular power transformer blew up, however, does most of his DX on c.w. We hear that TDB is nearing completion of his house.

TKW says "never give up hope for that working QSL card," so we can only hope to send on to a VK4 a card from a WS which had been incorrectly addressed to Chris. It had been posted in 1975 seventeen years ago. TKW has recently obtained a Class "C" water meter and promptly built in a 200 Kc. marker crystal oscillator using a miniature valve. The whole makes a swell frequency meter.

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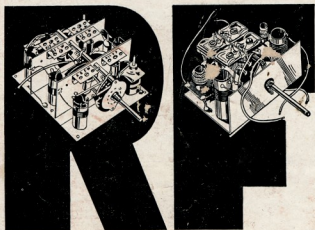
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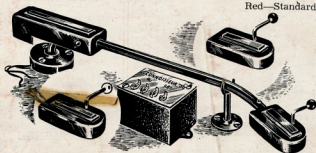
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